Postel

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A MAIL BOX PROTOCOL, VERSION-2 2

INTRODUCTION 3

Initial reaction to RFC 196, "A Mail Box Protocol", NIC(7141,) indicates general agreement on the need for such a mechanism. The conventions suggested in RFC 196 assumed only the use of the Data Transfer Protocol (in NIC 7104) in order to simplify an initial implementation. The valid argument, we believe, has been made that sites will also implement the File Transfer Protocol and that as much as possible the Mail Box Protocol should be a subset of it. This version is in answer to this suggestion. 3a

The purpose of a mail box protocol is to provide at each site a standard mechanism to receive sequential files for immediate or deferred printing or other uses. The files for deferred printing would probably be stored in intermediate disk files, although details of how a file is handled, stored, manipulated, or printed at a site are not the concern of this protocol. 3b

A mail box, as we see it, is simply a write only (from the Network) sequential file to which messages and documents are appended, separated by an appropriate site dependent code. 3c

It is also assumed that there would be a program at the sending site which sends the file in the format given below with the optional control codes when appropriate. This program could probably be accessed as a subcommand of the Telnet program. 3d

The motivation for developing this protocol is the Network Information Center's (NIC) need to be able to deliver messages and documents to remote sites, and to be able to receive documents for cataloging, redistribution, and other purposes from remote sites without having to know the details of path name conventions and file system commands at each site. Multiple mail boxes (256) are allowed at each site and are identified as described below. The default is mail box number 0 for use with the standard mail printer defined below. 3e

The only place where the Mail Box Protocol has a potential conflict with the File Transfer Protocol is in file naming conventions. The File Transfer Protocol assumes that the using site will use a filename which follows the access and file path name conventions of the serving site and that this information would be supplied by the user. In the Mail Box protocol we would like not to have to explicitly know the path name conventions at each site. 3f

In other words there is a need for a network virtual pathname convention. We did not want to solve this problem in general at this time and in RFC 196, NIC 7141, proposed the use of a separate socket for mail type delivery and the use of an integer 0-127 to specify the address of a specific file (Mail Box) to be appended to as the simplest form of network-wide standard file name convention for an initial implementation. 3g

To follow more closely the spirit of the File Transfer Protocol, I would now recommend the Append Request be specifically used and that the standard socket agreed on for use with the File Transfer Protocol also be used. Following the byte indicating an Append request, there would be a standard agreed-upon string of letters followed by a number, indicating that this is a mail box append request. A suggested name string would be NETMAIL#, where # is a byte interpreted as a mail box number 0-255. If the above suggested Mail Box file naming convention is unsuitable and some other network-wide standard mail box naming can be agreed on, then it can be used. Please let me know how you feel about this naming convention. 3h

Given agreement on a standard mail box pathname, then the Mail Box Protocol can utilize a subset of the File Transfer Protocol conventions to be given below. 3i

The other problem which was raised about the Mail Box Protocol was the possibility of someone accidentally or deliberately flooding the printer of a site with garbage, as there are no access or file size controls. Some thinking and discussions of this problem have yielded no simple satisfactory solutions. I would recommend initial implementations without standard special safeguards in this area. Safeguards would be a site-dependent option. Standard safeguards for the above problem can be easily added later if they really prove necessary and satisfactory ones can be agreed on. 3j

MAIL BOX PROTOCOL - VERSION 2 4

The Mail Box Protocol will use established network conventions, specifically the Network Control Program, Initial Connection Protocol, Data Transfer Protocol, and File Transfer Protocol (as described in Current Network Protocols, NIC 7104). 4a

The normal transmission for Mail Box 0 is to be Network ASCII. 4b

The standard receiving mail printer for mail box number 0 is assumed to have a print line 72 characters wide, and a page of 66 lines. The new line convention will be carriage return (Hex 'OD'), (Octal '015') followed by line feed (Hex'OA')(Octal 012') as per the Telnet Protocol, RFC 158, NIC 6768. The standard printer will accept form feed (Hex'OC')(Octal'014') as meaning move paper to the top of a new page. 4c

It is the sender's responsibility to control the length of the print line and page. If more than 72 characters per line are sent, or if more than 66 lines are sent without a form feed, then the receiving site can handle these situations as appropriate for them. These conventions can be changed by control codes as described below. 4d

At the head of the message or document sent to mail box number 0 there is to be an initial address string terminated by a form feed. This address string is to contain the sender's name and address, and the receiver's name and address formatted in some reasonable, easy-to-read form for a clerk to read and distribute. Comments could also be included in the address string. 4e

The format of information in mail boxes other than mail box number 0 is not explicitly defined by this protocol. 4f

Initial Connection 5

Initial Connection will be as per the Official Initial Connection Protocol, Document #2, NIC 7101, to the standard File Transfer socket not yet assigned. A candidate socket number, socket #3, has been suggested. 5a

File Transfer 6

The mail item (file) to be transferred would be transferred according to the File Transfer Protocol. 6a

As per the File Transfer Protocol, a file (mail item) can be

sent in more than one data transaction as defined in the Data Transfer Protocol. End of file is indicated by the file separator (as defined in Data Transfer Protocol) or by closing the connection. 6b

Order of Transactions 7

The only basic operation required is an append. 7a

```
                    Append Request                            7b

  (Mailer) User  -------------------->  Server (Mail Box)     7c

                   <File - data>                              7d

                 -------------------->                        7e

                End of File indication                        7f

                 -------------------->                        7g

                    Acknowledge                               7h

                 <--------------------                        7i
```

The data type default is network ASCII. The standard line printer default is as defined above. Other control transactions can be used. 7j

CONTROL TRANSACTIONS TO BE USED 8

OP CODE

Hex	Octal	
00	000	Change data type identifier
09	011	Error or unsuccessful terminate
0A	012	Acknowledge or successful terminate
0B	013	Append request (add to existing file)
5A	132	Change printer control settings

8a

DATA TYPE CODES 9

All data types of the File Transfer Protocol can be used for special applications. For Mail Box 0, default is 8 bit bytes of Network ASCII characters. 9a

ERROR CODES 10

All error codes defined in the File Transfer Protocol could be returned. 10a

PRINTER CONTROL CODES 11

	Hex	Octal		
D1	01	321	Meaning:	Set line width to 72 characters
D2	02	322	Meaning:	Use the full width of your printer
D3	03	323	Meaning:	Set page size to 66 lines
D4	04	324	Meaning:	Set page size to infinite 11a

Other virtual printer control codes can be added in the future. Other classes of control codes can be added as the need arises. 11b

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